

Spot Safety Project Evaluation

Project Log # 200512192

Spot Safety Project # 01-97-256

Spot Safety Project Evaluation of the Realignment of Plover St (SR 1417) and Widening of NC 12 in Dare Co.

Documents Prepared By:

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9/21/06
Date

Spot Safety Project Evaluation Documentation

Subject Location

Evaluation of Spot Safety Project Number 01-97-256 - Realignment of Plover St (SR 1417) and Widening of NC 12 in Dare County.

Project Information and Background from the Project File Folder

NC 12 was a two-lane 35 mph roadway at the intersection of Plover Street (SR 1417). Plover Street is a residential roadway that forms an offset crossroad with Nash Street.

The angle of the intersection of NC 12 at SR 1417 coupled with the horizontal alignment of NC 12 created a sight distance problem. Also, the lack of a left turn lane on NC 12 created rear end crash potential. The improvements chosen for the location was to realign SR 1417 with NC 12 more toward 90 degrees and to widen NC 12 to provide a left turn lane. The final completion date for the improvements at the subject location was on May 18, 2001 at a cost of \$75,000.

Naive Before and After Analysis

After reviewing the spot safety project file folder along with all the crashes along the subject road, the crash data omitted from this analysis to consider for an adequate construction period was from April 2001 through June 2001. The before period consisted of reported crashes from June 1, 1996 through March 31, 2001 (4 years, 10 Months) and the after period consisted of reported crashes from July 1, 2001 through April 30, 2006 (4 Years, 10 Months). The ending date for this analysis was determined by the available crash data at the time the crash analysis was completed.

The treatment data consisted of all crashes on NC 12 from 150' north of the intersection at Plover Street to 300' south of the intersection with a 150' y-line. The following data table depicts the Naive Before and After Analysis for the above information. Please note that Frontal Impact and Rear End crash types were the target crashes for the improvements. These crash types considered are as follows: Left Turn, same roadway; Left Turn, different roadway; Right Turn, same roadway; Right Turn, different roadway; Head On, Angle; Rear End, slow or stop; and Rear End, turn.

<u>Treatment Information</u>			
	Before	After	Percent Reduction (-) Percent Increase (+)
Total Crashes	3	2	-33.3
Total Severity Index	3.5	4.7	35.8
Rear End Crashes	2	1	-50.0
Rear End Severity Index	4.7	8.4	78.7
Frontal Impact Crashes	0.0	0.0	0.0
Volume	16000	15000	-6.3
<u>Treatment Injury Crashes</u>			
	Before	After	Percent Reduction (-) Percent Increase (+)
Fatal	0	0	0.0
Class A	0	0	0.0
Class B	0	0	0.0
Class C	1	1	0.0
Property Damage Only	2	1	-50.0

Table 1.

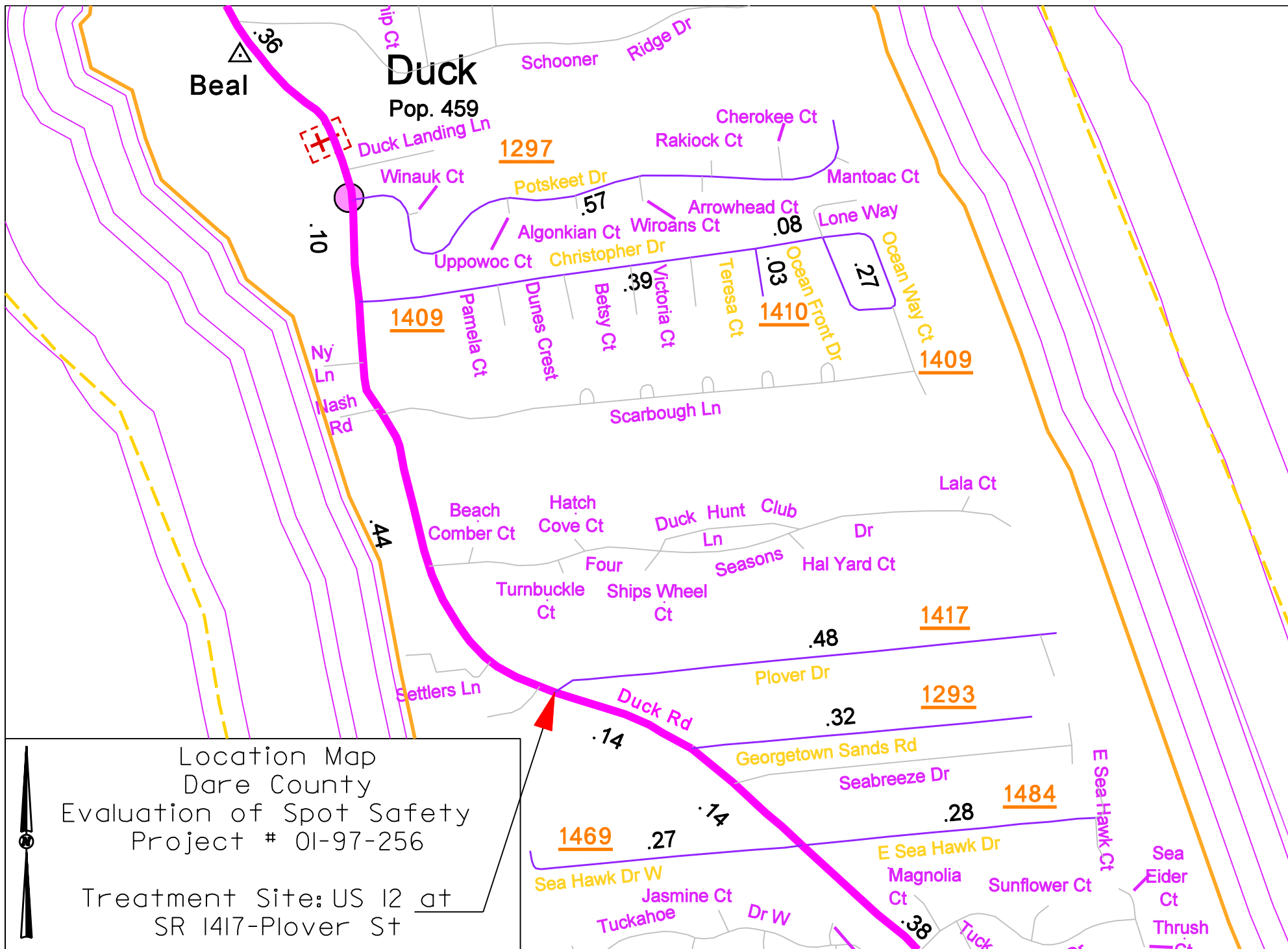
The naive before and after analysis at the treatment location resulted in a 33 percent decrease in Total Crashes, a 50 percent decrease in Rear End Crashes, and a 6 percent decrease in Average Daily Traffic (ADT). The before period ADT year was 1998 and the after period ADT year was 2003.

Results and Discussion

The naive before and after analysis involving the comparison of treatment actual before data versus treatment actual after data resulted in a 33 percent decrease in Total Crashes and a 50 percent decrease in Rear End Crashes. The summary results above demonstrate that the treatment location appears to have had a decrease in the number of Total Crashes and Rear End Crashes from the before to the after period.


Information from the project file folder shows that senior citizens are a strong population near or on SR 1417. It was stated that there was a problem entering and exiting SR 1417 during the peak season. An observation may be needed during peak season to identify any problems that may occur or may have been corrected due to the fact the study only shows three before and two after period crashes.

As the Safety Evaluation Group completes additional spot safety reviews for this type of treatment, we will be able to provide objective and definite information regarding actual crash reduction factors for this type of road.





US 12
35 MPH

<p>TRAFFIC SAFETY SYSTEMS MANAGEMENT UNIT SAFETY UNIT - SAFETY INQUIRY MOVEMENT PROGRAM MANAGEMENT AND SUPPORT</p> <div style="text-align: center;">  </div> <p style="text-align: center;">SAFETY EVALUATION TRAFFIC SAFETY</p> <hr style="border-top: 1px dashed black;"/> <p style="text-align: center;">BEFORE REALIGNMENT (LEFT TURN LANE)</p>	<p style="text-align: center;">COLLISION DIAGRAM</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">On/Offsite: _____</td> <td style="width: 50%;">At/At: _____</td> </tr> <tr> <td colspan="2">Study Period: 6/1/95 to 3/31/99</td> </tr> <tr> <td>Distance: _____</td> <td>Y-Lane: 60 FT</td> </tr> <tr> <td colspan="2">Data Y55 Prepared By: S. Compton</td> </tr> <tr> <td colspan="2">Diagram Prepared By: S. Compton</td> </tr> <tr> <td colspan="2">Diagram Reviewed By: _____</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Scale: _____</td> <td style="width: 50%;">Not To Scale</td> </tr> <tr> <td>Date: _____</td> <td>Jul 2000</td> </tr> <tr> <td>CS Number: _____</td> <td>*****</td> </tr> </table>	On/Offsite: _____	At/At: _____	Study Period: 6/1/95 to 3/31/99		Distance: _____	Y-Lane: 60 FT	Data Y55 Prepared By: S. Compton		Diagram Prepared By: S. Compton		Diagram Reviewed By: _____		Scale: _____	Not To Scale	Date: _____	Jul 2000	CS Number: _____	*****
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Dare County Treatment Site - Total Crashes After Period July 1, 2001 - April 30, 2006 (4 years 10 months)



LEGEND			